

IN THE CLAIMS:

1. (Previously Presented) A LED device comprises:

a LED light bulb including a LED chip, bonded wires, both connected to a plurality of lead frames and enveloped by a lamp cap, and one end of each of the lead frames emerges from the lamp cap;

5 a plurality of insulating lead wires each having a conductor in a center;

the conductor on one end of each said lead wire is connected to one of said emerged lead frames by an electrical connecting portion, and an insulator of each said insulating lead wire is bent back and extended sideward away from said conductor;

10 a protective device for directly holding said LED light bulb, the electrical connecting portion and a bent insulator positioning portion to make said insulator not easily be released such that this becomes a safe device.

2. (Original) The LED device as claimed in claim 1, wherein said lamp cap consists of flanges so as to connect and position to said protective device.

3. (Original) The LED device as claimed in claim 1, wherein said lamp cap is made of plastics.

4. (Original) The LED device as claimed in claim 1, wherein said lamp cap is transparent, semi-transparent, or added with fluorescent materials.

5. (Original) The LED device as claimed in claim 1, wherein an insulating positioning bracket is installed on said plurality of lead frames so as to firmly fix said lead frames.

6. (Previously Presented) The LED device as claimed in claim 1, wherein said plurality of insulating lead wires and said LED light bulb are connected together in a form that said plurality of insulating lead wires are parallel.

7. (Previously Presented) The LED device as claimed in claim 1, wherein said plurality of insulating lead wires and said LED light bulb are connected together in a predetermined angle.

8. (Previously Presented) The LED device as claimed in claim 7, wherein said predetermined angle is a right angle or a 180 degree angle to make said insulating lead wires form into straight lines.

9. (Original) The LED device as claimed in claim 1, wherein said conductor and said lead frames are electrically connected by welding or pressure bonding.

10. (Original) The LED device as claimed in claim 1, wherein said protective device is transparent, semi-transparent or added with fluorescent materials.

11. (Original) The LED device as claimed in claim 1, wherein said protective device holds the entirety or parts of said LED light bulb.

12. (Cancelled)

13. (Currently Amended) The LED device as claimed in claim 1, wherein: said LED light bulb, said plurality of insulating lead wires, and said protective device are ~~it is an~~ enveloped by plastics.

14. (Previously Presented) The LED device as claimed in claim 1, wherein said protective device is enveloped by a plurality of enveloping plates so as to form a hollow construction.

15. (Previously Presented) The LED device as claimed in claim 14, wherein openings are reserved on said plurality of enveloping plates so as to install said insulating lead wires.

16. (Previously Presented) The LED device as claimed in claim 14, wherein said plurality of enveloping plates are used with an internal border to tightly lock the bent part of said insulator so as not to be easily released.

17. (Previously Presented) The LED device as claimed in claim 14, wherein said

plurality of enveloping plates are firmly fixed by joining or gluing.

18. (Currently Amended) A LED device comprising:

light emitting elements including at least two predetermined electrodes on an LED chip base, and at least a LED chip is fixed on said LED chip base and connected to one of said electrodes, and two ends of bonded wires are connected to said LED chip and another of said electrodes;

a plurality of insulating lead wires having conductors in a center, and one end of said lead wires is connected to said electrode on the chip base by an electrical connecting portion, and moreover, an insulating end of said insulating lead wires are bent back and extended sideward away from said conductor; and

a protective device for directly holding said light emitting elements, electrical connecting, portion and ~~the~~ a bent insulator positioning portion so as to make them not easily be released and become a safe device.

19. (Original) The LED device as claimed in claim 18, wherein a plurality of LED chips are installed on said base in the same or different directions.

20. (Original) The LED device as claimed in claim 18, wherein a plurality of insulating lead wires and LED light bulb are connected together in a form that a plurality of insulating lead wires are parallel.

21. (Original) The LED device as claimed in claim 18, wherein a plurality of insulating lead wires and LED light bulb are connected together in a predetermined angle.

22. (Previously Presented) The LED device as claimed in claim 21 wherein said predetermined angle is a right angle or a 180 degree angle to make said insulating wires in a straight line.

23. (Previously Presented) The LED device as claimed in claim 18, wherein said conductors and said electrodes are electrically connected by welding or pressure bonding.

24. (Original) The LED device as claimed in claim 18 wherein said protective device is transparent, semi-transparent, or added with fluorescent materials.

25. (Cancelled)

26. (Currently Amended) The LED device as claimed in claim 18, wherein: said light emitting elements, said plurality of insulating lead wires, and said protective device are ~~it is~~ enveloped by plastics.

27. (Previously Presented) The LED device as claimed in claim 18, wherein said protective device is enveloped by a plurality of enveloping plates to form a hollow construction.

28. (Previously Presented) The LED device as claimed in claim 18 wherein openings are reserved on a plurality of enveloping plates so as to install insulating lead wires.

29. (Previously Presented) The LED device as claimed in claim 18 wherein a plurality of enveloping plates are used with an internal border to tightly lock the bent part of said insulator so as not to be easily released.

30. (Previously Presented) The LED device as claimed in claim 18, wherein a plurality of enveloping plates are firmly fixed by joining or gluing.

31- 32 (Cancelled)

33. (Previously Presented) The device as claimed in claim 56, wherein said plurality of light emitting elements are connected in strings.

34. (Previously Presented) The device as claimed in claim 56, wherein said plurality of light emitting elements are connected in arrays.

35. (Previously Presented) The device as claimed in claim 34, wherein said arrays are made in different arrangements including squares, rhombuses, or triangles.

36. (Previously Presented) The device as claimed in claim 34, wherein said arrays can also be formed into a network shape or a curtain type.

37. (Previously Presented) The device as claimed in claim 35, wherein said arrays can also be formed into a network shape or a curtain type.

38. (Previously Presented) The device as claimed in claim 34, wherein said arrays are made in a two-plate shape.

39 (Cancelled)

40. (Previously Presented) The device as claimed in claim 56, further comprising: a function controller so as to form predetermined functions for lighting said plurality of light emitting elements.

41. (Currently Amended) A method for manufacturing a LED device comprising a LED light bulb and a plurality of emerged lead frames; insulating lead wires with conductors in a center and a protective device, the method includes the following steps:

separating an end of said insulating lead wires into at least two plates of insulators so as to expose said conductor;

electrically connecting said emerged conductor to said lead frames of said LED light

bulb to form an electrical connecting portion, and bending said insulators of said lead wires back and extended sideward away from said conductor;

holding said LED light bulb, electrical connecting portion and an insulating part of said
10 insulating lead wires ~~positioning~~ by said protective device.

42. (Original) The LED device as claimed in claim 41, wherein said protective device is made from plastics.

43. (Original) The LED device as claimed in claim 41 wherein said protective device is formed by a plurality of enveloping plates.

44. (Currently Amended) A method for manufacturing a LED device comprising a LED chip base, which includes at least two predetermined electrodes; at least a LED chip, bonded wires; insulating lead wires having conductors in a center; and a protective device, the method includes the following steps:

5 fixing said LED chip on said LED chip base and electrically connecting to one of said electrodes;

electrically connecting two ends of bonded wires respectively to said LED chip and another of the electrodes;

separating an end of said insulating lead wires so as to expose said conductor in its
10 center;

electrically connecting said exposed conductor to said LED light bulb to form and electrical connecting portion, and bending an insulator of said insulating lead wires back and extended sideward away from said conductor;

15 directly holding said LED chip and its base, bonded wires, electrical connecting portion and said bent insulator by said protective device.

45. (Original) The LED device as claimed in claim 44, wherein said protective device is made from plastics.

46. (Cancelled)

47. (Previously Presented) A lighting device comprising:

a light bulb including a plurality of lead frames and a lamp cap connected to the lead frames, one end of each of said lead frames extending from the lamp cap;

5 a plurality of insulating lead wires, each of said lead wires having a conductor surrounded by insulation, said insulation at ends of said lead wires being bent away from said conductor and extending radially outward from said conductor, each of said conductors being connected to one of said lead frames at a connecting portion;

a protective device directly connected to said light bulb, said connecting portion and said insulation at said ends of said lead wires.

48. (Previously Presented) A device in accordance with claim 47, wherein:
said lightbulb includes an LED chip, and bonded wires electrically connecting said LED chip to said plurality of lead frames.

49. (Previously Presented) A device in accordance with claim 47, wherein:
said protective device is enveloped around said lightbulb, said ends of said lead wires, said ends of said lead frames and said connecting portion.

50. (Previously Presented) A device in accordance with claim 47, wherein:
said protective device is directly connected to said lightbulb only at a base of said lightbulb.

51. (Previously Presented) A device in accordance with claim 48, wherein:
said LED chip is arranged inside said lamp cap;
said protective device is enveloped around said lightbulb, said ends of said lead wires, said ends of said lead frames and said connecting portion;

5 said protective device is directly connected to said lightbulb only at a base of said lightbulb;
said protective device is directly connected to said lamp cap.

52. (Previously Presented) A device in accordance with claim 47, wherein:

said protective device is directly connected to said lamp cap.

53. (Previously Presented) A device in accordance with claim 47, wherein:

said light bulb has a primary light emitting direction, said plurality of insulating lead wires extend from said lightbulb in a direction substantially parallel to said primary light emitting direction.

54. (Previously Presented) A device in accordance with claim 47, wherein:

said light bulb has a primary light emitting direction, said plurality of insulating lead wires extend from said lightbulb in a direction substantially perpendicular to said primary light emitting direction.

55. (Previously Presented) A device in accordance with claim 47, wherein:

said lightbulb, said plurality of insulating lead wires and said protective device form a first light emitting element;

a second light emitting element is provided and is similar to said first light emitting element, one of said plurality of insulating lead wires of said second light element is directly connected to one of said plurality of insulating lead wires of said first light element.

56. (Previously Presented) A device in accordance with claim 55, wherein:

a plurality of light emitting elements is provided similar to, and connected similarly as,

said first and second light emitting elements.